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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,141	03/04/2002	Onn Haran	032433.0003.UTL	5152

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Mark M Friedman  
Dr. Mark Friedman Ltd  
c/o Discovery Dispatch  
9003 Florin Way  
Upper Marlboro, MD 20772

EXAMINER

GREY, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/091,141

Applicant(s)

HARAN ET AL.

Examiner

Christopher P. Grey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-40 is/are allowed.
- 6) ☐ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) 10-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Drawings***

1. The drawings are objected to due to the following:

Fig 1, 3 and 6 are handwritten.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyd et al. (US 6801547), hereinafter referred to as Boyd

**Claim 1** Boyd discloses discovering (col 3 line 51, invites and Col 2 lines 63-67) the first node (fig 1, 28a, ONU) by the central controller (fig 1, 22, OLT);

Boyd discloses synchronizing (fig 2, 250, adjusts) the internal clock of the first node to the internal clock of the central controller (fig 2, 230, 240 and 250, OLT /controller transmits a determined time difference to ONU/first node, and the first node adjusts/synchronizes itself accordingly), where a clock is inherently necessary within the OLT and ONU in order to perform the adjustments and measurements disclosed;

Boyd discloses transmitting uplink data from the first node to the central controller (Col 1 lines 49-51, where the completion of ranging grant procedure allows for transmission of upstream data) in response to transmission authorization (fig 2, 250, another response cell to the OLT) sent by the central

controller (fig 2, 250, ONU) to the first node (fig 2, 250, OLT, where the transmission of the response cell when a 0 time difference is experienced is an authorization of the completion of synchronization).

**Claim 2** Pearce discloses measuring a round trip delay from the central controller to the first node (Col 4 lines 24-25).

Pearce discloses transmitting downlink data from the central controller to the first node (fig 2, 240, OLT/controller transmits to ONU/first node).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-5, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd et al. (US 6801547) in view of Matsumoto et al. (US 6711264), hereinafter referred to as Matsumoto

**Claim 3** Boyd does not specifically disclose encrypting downlink data.

Matsumoto discloses encrypting downlink data (Col 3 lines 1-12).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the encryptor disclosed within Matsumoto, into the Central controller as disclosed Boyd. The motivation for this combination is to secure the transmission of data.

**Claim 4, 5** Boyd does not specifically disclose the step of the first node periodically sending a different encryption key to the central controller, wherein the step of encrypting the downlink data comprises the step of encrypting the downlink data with the encryption key as received by the central controller from the first node.

Matsumoto discloses the step of the first node periodically sending a different encryption key to the central controller, wherein the step of encrypting the downlink data comprises the step of encrypting

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the downlink data with the encryption key as received by the central controller from the first node (Col 2 lines 11-25 and Col 3 lines 1-20 and Col 6 lines 29-35).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the encryptor and key updating means as disclosed by Matsumoto, within the controller as disclosed by Boyd. The motivation for this modification is for a constant update of a key and secure transmission of data.

**Claim 8** Boyd discloses the downlink data and the uplink data being transmitted using IEEE 802.3 Ethernet standard packets (Col 2 lines 15-17, MAC).

**Claim 9** Boyd discloses the network being a passive optical network (Col 1 lines 23-24).

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd et al. (US 6801547) in view of Matsumoto et al. (US 6711264), hereinafter referred to as Matsumoto in further view of Bedrosian (US 6895189).

**Claims 6, 7** The combination of Boyd and Matsumoto do not specifically disclose the step of detecting, by the central controller and the first node, connection failure between the central controller and the first node.

Bedrosian discloses a clock processor that detects a failure (Col 6 lines 40-42).

It would have been obvious to one of the ordinary skill in the art that in the event of a controller and a node communicating, some form of detection of the failure of communication is necessary (inherent within the art). It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the clock processor or any equivalent failure detection known within the art, to the OLT and ONU disclosed by Boyd. The motivation for this combination is to detect failures, and furthermore for fast recovery from failures.

***Allowable Subject Matter***

5. Claims 28-40 are allowed.

6. Claims 10-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571)272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Grey  
Examiner  
Art Unit 2616

*C. Grey*  
11/21/06

*Chau Nguyen*  
CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600